9V/2.3W single-channel power amplifier

BA534

The BA534 is a monolithic power amplifier designed for portable cassette players and radios. With a 9V power supply, it has a rated output of 2.3W into a 4Ω load (THD = 10%). It has high ripple rejection, and the "pop" noise when power is applied has been suppressed to an absolute minimum.

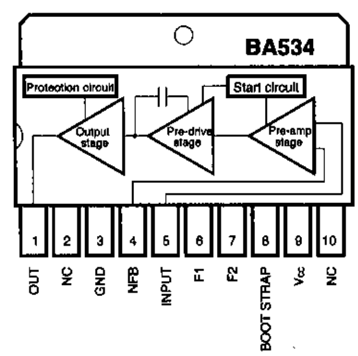
●Applications

Portable cassette recorders and radios.

●Features

1) High power output.
When V_{CC} = 9V, R_L = 4Ω and THD = 10% : P_{OUT} = 2.3W
When V_{CC} = 9V, R_L = 3Ω and THD = 10% : P_{OUT} = 2.8W
2) The "pop" noise that occurs when the power is applied is extremely low.
3) Excellent ripple rejection ratio.

●Block diagram

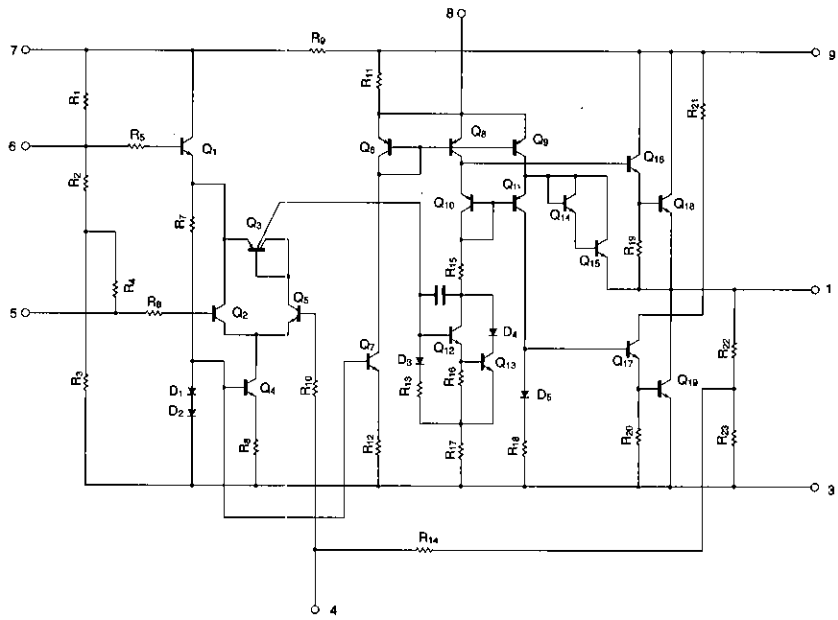


●Absolute maximum ratings (Ta = 25℃)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	14	V
Power dissipation	Pd	2.5*	W
Operating temperature	Topr	−25~75	℃
Storage temperature	Tstg	−55~125	℃

* Reduced by 25mW for each increase in Ta of 1 °C over 25°C.
(without radiation board)

●Internal circuit diagram



●Electrical characteristics (unless otherwise specified Ta = 25°C, V_{CC} = 6V, R_L = 4Ω and R_{NF} = 100Ω)

Parameter	Symbol	Min	Typ.	Max.	Unit	Conditions	Measurement Circuit
Quiescent circuit current	I_Q	–	20	50	mA	–	Fig.1
Closed-circuit voltage gain	G_{VC}	47	50	53	dB	f=1kHz	Fig.1
Rated output	P_{OUT}	1.7	2.3	–	W	THD=10%	Fig.1
Output noise voltage	V_{NO}	–	0.7	3.0	mV_{rms}	R_g=10kΩ	Fig.1
Input resistance	R_{IN}	–	200	–	kΩ	–	Fig.1
Total harmonic distortion	THD	–	0.3	2	%	P_O=0.5W	Fig.1

●Measurement circuit

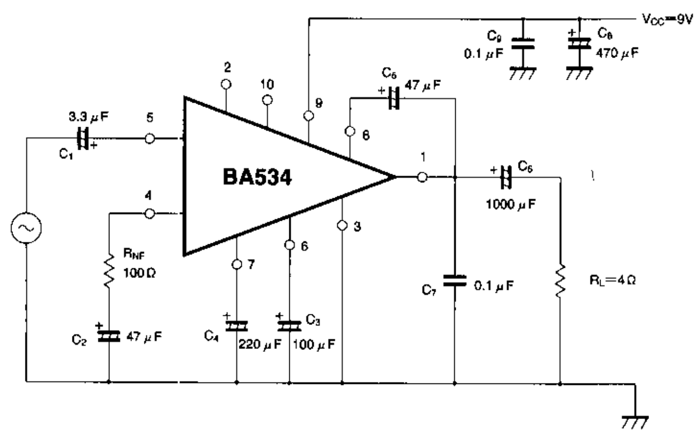


Fig. 1

●Application example

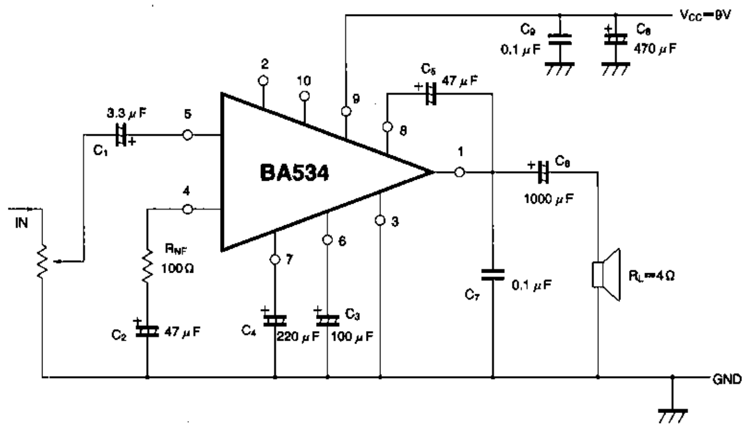


Fig. 2

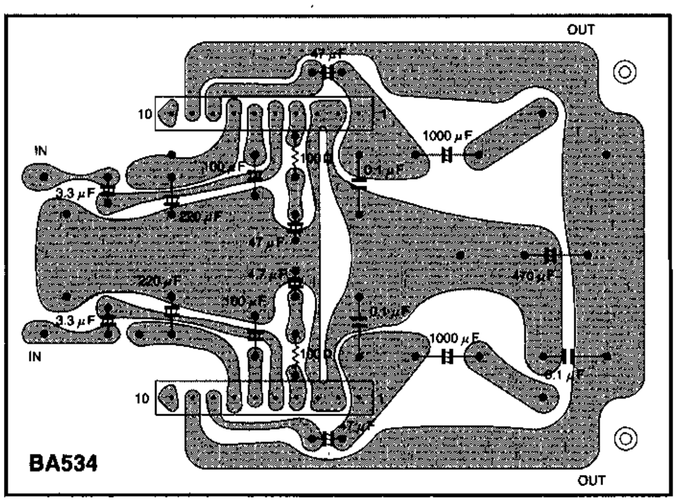
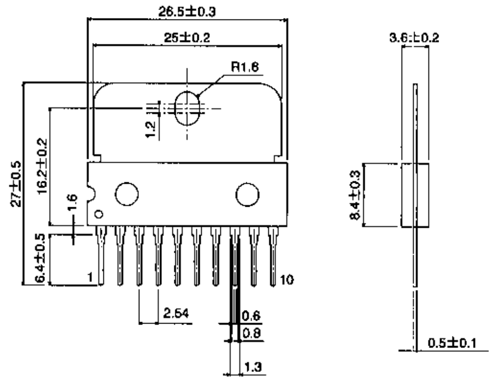


Fig. 3 PCB diagram

Power amplifiers
Low-frequency amplifiers

●External dimensions (Unit: mm)



HSIP10